WHAT IS CLAIMED IS:

1.   A method for improving the quality of image data, comprising:

identifying a reference feature whose characteristics are invariant as the film develops; and

adjusting image data in response to the reference feature, the image data and the reference feature captured from the film while the film has developing chemical applied thereto.

2.   The method of Claim 1, wherein the feature comprises one of the group consisting of a maximum level of light to be captured from the film, a minimum level of light to be captured from the film, an unexposed region of the film, an image extent, a sphere, a film defect, and at least one sprocket hole of the film.

3.   The method of Claim 1, further comprising positioning the feature in the location.

4.   The method of Claim 1, further comprising determining the location of the feature on the film.

5.   The method of Claim 1, wherein adjusting comprises normalizing the data in response to one of the group consisting of a maximum level of light to be captured from the film and a minimum level of light to be captured from the film.

6.   The method of Claim 1, wherein adjusting comprises equalizing the data in response to one of the group consisting of a maximum level of light to be captured from the film and a minimum level of light to be captured from the film.

7.   The system of Claim 1, wherein adjusting comprises one of the group consisting of aligning the locations of data captured from the film at a plurality of film development times and aligning the locations of data captured from the film by a plurality of sensors.

8.   The system of Claim 1, wherein adjusting comprises one of the group consisting of determining the location of at least one image frame on the film and reducing the appearance of one of the group consisting of noise and defects in a digital image derived from the adjusted image data.

5   9.   The method of Claim 1, wherein identifying the feature comprises comparing at least a portion of the reference feature to at least one threshold value.

10.   The method of Claim 1, wherein identifying the feature comprises comparing a pattern of signals derived from data captured from the film with an expected pattern.

10   11.   The method of Claim 1, wherein identifying the feature comprises adaptively filtering a pattern of signals derived from data captured from the film in response to changes in the density of the film with an expected pattern of signals.

12.   The method of Claim 1, wherein identifying the feature comprises:

generating a first histogram comprising first values derived from data captured

15   from the film at a first development time;

comparing the first values with second values in a second histogram derived from data captured from the film at a second development time; and

identifying at least a portion of the first values as the reference feature if the portion has developed at a rate different from the remainder of the first values in

20   response to the comparison.

13.   The method of Claim 12, further comprising identifying the remainder of the first values as a flare.

14. The method of Claim 4, wherein determining the location of the feature comprises:

determining a maximum value of a plurality of rates of change calculated between a plurality of pairs, each pair comprising at least two adjacent values from at least a portion of a column of values captured from film while the film has developer chemicals applied thereto, the column of values disposed generally in a y direction parallel to a surface of the film and perpendicular to a first film edge and a second film edge both along an x direction of the film;

determining a closest relative maximum value of the calculated rates of change to a selected pixel in the column of values; and

identifying the location of at least a portion of a first image extent in response to the location of the closest relative maximum value.

15. The method of Claim 4, wherein determining the location of the feature comprises:

determining a plurality of rates of change calculated between a plurality of pairs, each pair comprising at least two adjacent values from the least a portion of a row of values captured from film having developer chemicals applied thereto, the row of values oriented generally in the x direction parallel to a surface of the film and to a first film edge and a second film edge both along the x direction, the x direction perpendicular to a y direction across the film;

comparing the rates of change to an expected signature of a feature; and

identifying the location of the feature in response to the comparison.

16.   A system for improving the quality of image data, comprising:

a processor; and

logic resident on the processor operable to

identify a reference feature whose characteristics are invariant as the film develops; and

adjust image data in response to the reference feature, the image data and the reference feature captured from the film while the film has developing chemical applied thereto.

17.   The system of Claim 16, wherein the feature comprises one of the group consisting of a maximum level of light to be captured from the film, a minimum level of light to be captured from the film, a flare, an unexposed region of the film, an image extent, a sphere, a film defect, and at least one sprocket hole of the film.

18.   The system of Claim 16, wherein the logic is further operable to position the feature in the location.

19.   The system of Claim 16, wherein the logic is further operable to determine the location of the feature on the film.

20.   The system of Claim 16, wherein the logic is operable to adjust the image data by normalizing the data in response to one of the group consisting of a maximum level of light to be captured from the film and a minimum level of light to be captured from the film.

21.   The system of Claim 16, wherein the logic is operable to adjust the image data by equalizing the data in response to one of the group consisting of a maximum level of light to be captured from the film and a minimum level of light to be captured from the film.

22.   The system of Claim 16, wherein the logic is operable to adjust the image data by one of the group consisting of aligning the locations of data captured from the film at a plurality of film development times and aligning the locations of data captured from the film by a plurality of sensors.

5   23.   The system of Claim 16, wherein the logic is operable to adjust the image data by one of the group consisting of determining the location of at least one image frame on the film and reducing the appearance of one of the group consisting of noise and defects in a digital image derived from the adjusted image data.

        24.   The system of Claim 16, wherein the logic is operable to identify the
10   feature by comparing at least a portion of the reference feature to at least one threshold value.

        25.   The system of Claim 16, wherein the logic is operable to identify the feature by comparing a pattern of signals derived from data captured from the film with an expected pattern.

15   26.   The system of Claim 16, wherein the logic is operable to identify the feature by adaptively filtering a pattern of signals derived from data captured from the film with an expected pattern in response to changes in the density of the film.

        27.   The system of Claim 16, wherein the logic is operable to identify the feature by:

20   generating a first histogram comprising first values derived from data captured from the film at a first development time;

            comparing the first values with second values in a second histogram derived from data captured from the film at a second development time; and

            identifying at least a portion of the first values as the reference feature if the
25   portion has developed at a rate different from the remainder of the first values in response to the comparison.

28. The system of Claim 27, further comprising identifying the remainder of the first values as a flare.

29. The system of Claim 19, wherein the logic is operable to determine the location of the feature by:

determining a maximum value of a plurality of rates of change calculated between a plurality of pairs, each pair comprising at least two adjacent values from at least a portion of a column of values captured from film while the film has developer chemicals applied thereto, the column of values disposed generally in a y direction parallel to a surface of the film and perpendicular to a first film edge and a second film edge both along an x direction of the film;

determining a closest relative maximum value of the calculated rates of change to a selected pixel in the column of values; and

identifying the location of at least a portion of a first image extent in response to the location of the closest relative maximum value.

30. The method of Claim 19, wherein the logic is operable to determine the location of the feature by:

determining a plurality of rates of change calculated between a plurality of pairs, each pair comprising at least two adjacent values from the least a portion of a row of values captured from film having developer chemicals applied thereto, the row of values oriented generally in the x direction parallel to a surface of the film and to a first film edge and a second film edge both along the x direction, the x direction perpendicular to a y direction across the film;

comparing the rates of change to an expected signature of a feature; and

identifying the location of the feature in response to the comparison.

31.   A digital image, comprising:

a computer readable medium; and

a plurality of digital pixel values residing on the computer readable medium and obtained by

identifying a reference feature whose characteristics are invariant as the film develops; and

adjusting image data in response to the reference feature to produce the digital image, the image data and the reference feature captured from the film while the film has developing chemical applied thereto.

32.   The digital image of Claim 31, wherein the feature comprises one of the group consisting of a maximum level of light to be captured from the film, a minimum level of light to be captured from the film, a flare, an unexposed region of the film, an image extent, a sphere, a film defect, and at least one sprocket hole of the film.

33.   The digital image of Claim 31, wherein the logic is further operable to position the feature in the location.

34.   The digital image of Claim 31, wherein the logic is further operable to determine the location of the feature on the film.

35.   The digital image of Claim 31, wherein adjusting comprises normalizing the data in response to one of the group consisting of a maximum level of light to be captured from the film and a minimum level of light to be captured from the film.

36.   The digital image of Claim 31, wherein adjusting comprises equalizing the data in response to one of the group consisting of a maximum level of light to be captured from the film and a minimum level of light to be captured from the film.

37.   The digital image of Claim 31, wherein adjusting comprises one of the group consisting of aligning the locations of data captured from the film at a plurality of film development times and aligning the locations of data captured from the film by a plurality of sensors.

5   38.   The digital image of Claim 31, wherein adjusting comprises one of the group consisting of determining the location of at least one image frame on the film and reducing the appearance of one of the group consisting of noise and defects in a digital image derived from the adjusted image data.

       39.   The digital image of Claim 31, wherein identifying the feature
10   comprises comparing at least a portion of the reference feature to at least one threshold value.

       40.   The digital image of Claim 31, wherein identifying the feature comprises comparing a pattern of signals derived from data captured from the film with an expected pattern.

15   41.   The digital image of Claim 31, wherein identifying the feature comprises adaptively filtering a pattern of signals derived from data captured from the film with an expected pattern in response to changes in the density of the film.

       42.   The digital image of Claim 31, wherein identifying the feature comprises:

20   generating a first histogram comprising first values derived from data captured from the film at a first development time;

       comparing the first values with second values in a second histogram derived from data captured from the film at a second development time; and

       identifying at least a portion of the first values as the reference feature if the
25   portion has developed at a rate different from the remainder of the first values in response to the comparison.

43.   The digital image of Claim 42, further comprising identifying the remainder of the first values as a flare.

44.   The digital image of Claim 34, wherein determining the location of the feature comprises:

5   determining a maximum value of a plurality of rates of change calculated between a plurality of pairs, each pair comprising at least two adjacent values from at least a portion of a column of values captured from film while the film has developer chemicals applied thereto, the column of values disposed generally in a y direction parallel to a surface of the film and perpendicular to a first film edge and a second

10   film edge both along an x direction of the film;

determining a closest relative maximum value of the calculated rates of change to a selected pixel in the column of values; and

identifying the location of at least a portion of a first image extent in response to the location of the closest relative maximum value.

15   45.   The digital image of Claim 34, wherein determining the location of the feature comprises:

determining a plurality of rates of change calculated between a plurality of pairs, each pair comprising at least two adjacent values from the least a portion of a row of values captured from film having developer chemicals applied thereto, the row

20   of values oriented generally in the x direction parallel to a surface of the film and to a first film edge and a second film edge both along the x direction, the x direction perpendicular to a y direction across the film;

comparing the rates of change to an expected signature of a feature; and

identifying the location of the feature in response to the comparison.